

WHAT WE CLAIM:

1. An osteogenic device comprising the following components:
 - (a) a bone morphogenetic protein BMP selected from a group consisting of partially purified native BMP, recombinant BMP and modified BMP complex;
 - (b) a collagen component;
 - (c) a shapable porous carrier body;
 - (d) optional growth factors...
2. The device of claim 1, wherein the bone morphogenetic protein is a modified BMP complex from which Fraction II a medium MW protein with immunogenic properties is removed, said BMP complex consisting essentially of a mixture of Fraction I, a high MW (100-700 kD) protein with osteoinductive BMP activity, and a low MW (15-20 kD) protein with osteoinductive BMP activity.
3. The device of claim 1, wherein the bone morphogenetic protein is Fraction III a low MW (15-25 kD) protein with osteoinductive BMP activity with prolonged storage properties.
4. The device of claim 1, wherein the morphogenetic protein is obtainable by a method comprising the steps of
 - (a) pulverizing demineralized bone material;
 - (b) extracting the bone material in step (a) with guanidinium hydrochloride (GuHCl);
 - (c) performing at least one gel filtration with HPLC-reversed chromatography.
5. The device of claim 1, wherein the collagen is selected from a group consisting of collagen mixtures.

atelopeptide collagens, Type IV collagen and Type I collagen I.

6. The device of claim 1, wherein the collagen component is Type IV collagen.
7. The device of claim 1, wherein the shapable, porous carrier body is selected from a group comprising hydroxyapatite, tricalcium phosphate, bioactive glass and biocoral originating from a coral skeleton.
8. The device of claim 1, wherein the shapable, porous carrier body is a biocoral selected from a coral skeleton.
9. An osteogenic device comprising the following components:
 - (a) a modified BMP; complex consisting essentially of a mixture of Fraction I, a high MW (100-700 kD) protein with osteoinductive BMP activity, and a low MW (15-25 kD) protein with osteoinductive BMP activity being essentially free from Fraction II, a medium MW (25-55 kD) immunogenically and inflammatory active protein;
 - (b) collagen IV; and
 - (c) a biocoral carrier.
10. A method for preparing an osteogenic device comprising the steps of:
 - (a) incubating collagen with dissolved a BMP complex;
 - (b) impregnating the bioceramic body by immersing it in the mixture from step (a);
 - (c) performing a dialysis of the BMP-collagen shapable porous

body;

- (d) separating the body and the solution used for dialysis;
- (e) adsorbing BMP impregnated collagen containing precipitate from the solution of step (d) on the BMP-collagen shapable, porous body.

11. The method of claim 10, wherein the bone morphogenetic protein complex comprises a mixture of a high MW (100 -700 kD) protein with osteoinductive BMP activity and a low MW (15-25 kD) protein with osteoinductive BMP activity.
12. The method of claim 10, wherein the modified BMP complex is obtainable by a method comprising the steps of claim 4.
13. The method of claim 10, wherein the collagen is selected from a group consisting of a collagen mixture, Type IV collagen and Type I collagen.
14. The method of claim 10, wherein the shapable, porous carrier body is selected from a group consisting of hydroxyapatite, tricalcium phosphate, bioactive glass and biocorals originating from coral skeleton.
15. The use of the component of the osteogenic device defined in claim 2 in the preparation of an osteogenic device with improved osteoinductive properties.